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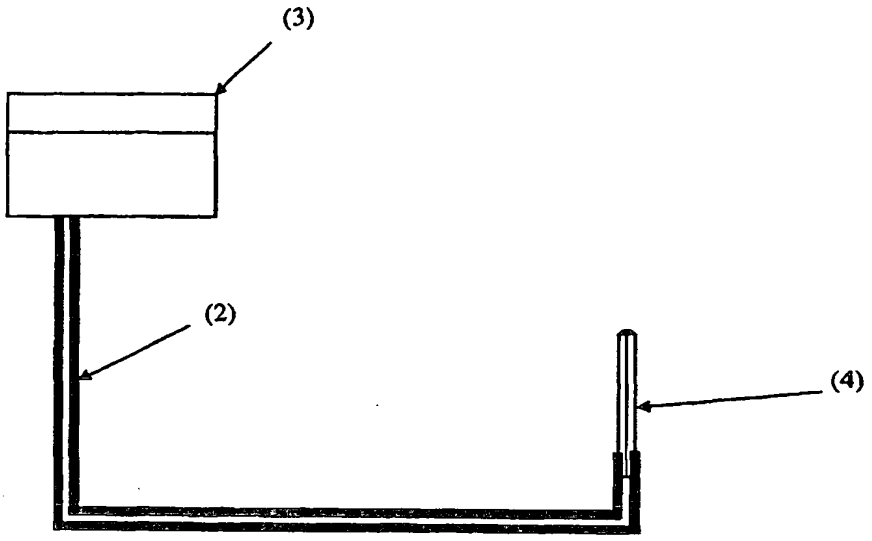

(57) Abstract

The present invention relates to a microfluidic device comprising a microchannel (2, 4) providing for solvent contact between an open microarea (MA) carrying a microvolume (1) of a solvent and a reservoir (3) for the solvent, said reservoir (3) and said microchannel (2, 4) being adapted so that solvent evaporated from said microarea (MA) is continuously replaced by solvent from the reservoir (3) through said microchannel (2, 4). It further relates to method for replacing solvents evaporating from a microvolume (1) of solvent placed in an open microarea (MA) of a microfluidic device, wherein replacement is continuously taking place via a microchannel (2, 4) that transports solvent to the microarea (MA) from a solvent reservoir (vessel) (3). The device and method are suitable for preventing the desiccation of samples.